

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No.: 10/506,548

Atty. Docket No.: Q83405

AMENDMENTS TO THE CLAIMS

This listing of Claims will replace all prior versions and listings of Claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A polypeptide which comprises amino acid numbers 37 to 346 in the amino acid sequence represented by SEQ ID NO:2 and which has 90% or more homology with the amino acid sequence represented by SEQ ID NO: 2, or a polypeptide ~~of a sulfotransferase~~ which comprises an amino acid sequence having a substitution, deletion, insertion, and/or addition ~~and/or transposition~~ of at least one amino acid in the amino acid sequence represented by SEQ ID NO:2 and which has 90% or more homology with the amino acid sequence represented by SEQ ID NO: 2 and activity of transferring a sulfate group from a sulfate group donor to a glycosaminoglycan which is a sulfate group acceptor.

2. (original): The polypeptide according to Claim 1, which consists of the amino acid sequence represented by SEQ ID NO:2.

3. (original): The polypeptide according to Claim 1, which consists of amino acid numbers 37 to 346 in the amino acid sequence represented by SEQ ID NO:2.

4. (previously presented): The polypeptide according to Claim 1, wherein the glycosaminoglycan is heparin or heparan sulfate.

5. (canceled):

6. (withdrawn): A nucleic acid selected from the group consisting of (I), (II) and (III):

(I) a nucleic acid which encodes:

the polypeptide according to Claim 1, or

a sulfotransferase which comprises the polypeptide according to Claim 1 and has activity of transferring a sulfate group from a sulfate group donor to a glycosaminoglycan which is a sulfate group acceptor;

(II) a nucleic acid which consists of the nucleotide sequence represented by SEQ ID NO:1 and

(III) a nucleic acid which hybridizes, under stringent conditions, with:

the nucleic acid according to (I) or (II) or a nucleic acid which consists of the nucleotide sequence represented by SEQ ID NO:1 or

a nucleic acid consisting of a nucleotide sequence complementary to the nucleotide sequence of the nucleic acid according to (I) or (II) or the nucleotide sequence represented by SEQ ID NO:1.

7. (canceled).

8. (canceled).

9. (withdrawn): An expression vector which comprises the nucleic acid according to Claim 6.

10. (withdrawn): A recombinant which comprises the expression vector according to Claim 9.

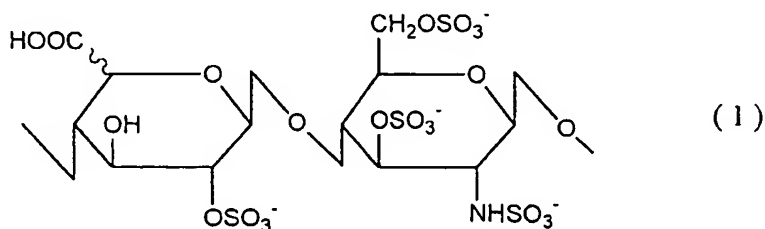
11. (withdrawn): A recombinant which comprises a host cell into which the expression vector according to Claim 9 is introduced.

12. (withdrawn): A process for producing a polypeptide or a sulfotransferase, which comprises:

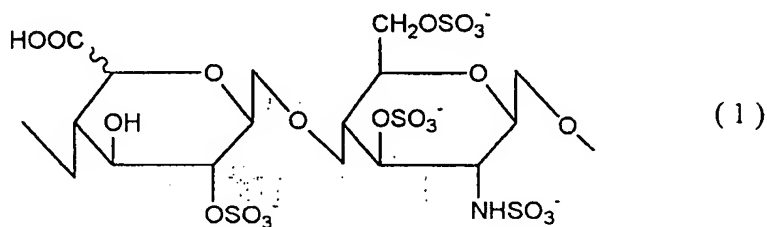
growing a recombinant which comprises the expression vector according to Claim 9 or a recombinant which comprises a host cell into which the expression vector according to Claim 9 is introduced, and

recovering the polypeptide according to Claim 1 or a sulfotransferase which comprises the polypeptide according to Claim 1 and has activity of transferring a sulfate group from a sulfate group donor to a glycosaminoglycan which is a sulfate group acceptor group acceptor from the obtained grown recombinant.

13. (currently amended): ~~An enzyme agent for synthesizing a glycosaminoglycan comprising the structure represented by the following formula (1), which comprises t~~ The polypeptide according to Claim 1 ~~or a sulfotransferase which comprises the polypeptide according to Claim 1 and has activity of transferring a sulfate group from a sulfate group donor to a glycosaminoglycan which is a sulfate group acceptor~~ which produces a glycosaminoglycan comprising the structure represented by the following formula (1):



14. **(withdrawn/currently amended):** A process for producing a glycosaminoglycan comprising the structure represented by the following formula (1), which comprises reacting the polypeptide according to Claim 1 ~~enzyme agent according to Claim 13~~ with heparin or heparan sulfate to transfer a sulfate group from a sulfate group donor to a sulfate group acceptor:



15. **(canceled).**